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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,070	03/30/2001	Priya Rajagopal	042390.P10458	8238

7590 01/09/2006  
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EXAMINER

NGUYEN, DUSTIN

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/823,070

Applicant(s)

RAJAGOPAL ET AL.

Examiner

Dustin Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1 – 20 are presented for examination.

### ***Response to Arguments***

2. Applicant's arguments filed 10/28/2005 have been fully considered but they are not persuasive.
3. As per remarks, Applicants' argued that (1) Grimwood does not have a timing offset and nothing like the comparison of claim 1, between processor tick counter values.
4. As to point (1), Grimwood discloses a timing offset and processor tick counter values [ i.e. microprocessor performs offset adjustment [ col 23, lines 8-23 ] and matching of the tick rate of the clock between CU and RU [ col 32, lines 34-55 ] ].
5. As per remarks, Applicants' argued that (2) there is not timing offset being sent and there are no operations that are normalized to any timing.
6. As to point (2), Grimwood discloses the sending of the timing offset [ i.e. send the offset ] [ col 49, lines 58-60 ] and the normalized of timing [ i.e. determining the offset between the

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master clock tick counter and a corresponding tick counter in the RU and synchronized between the two ] [ Figure 23; col 47, lines 49-col 48, lines 3 ].

7. As per remarks, Applicants' argued that (3), neither reference suggests applying a timing offset to the execution of instructions.

8. As to point (3), Grimwood discloses the above limitation [ i.e. execution of ranging and training processes for synchronization ] [ col 47, lines 35-col 48, lines 17 ].

### ***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 3-5, 11, 12, 16 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following terms lack antecedent basis:

I. the time - claims 3-5, 11, 12, 16 and 17.

### ***Claim Rejections - 35 USC § 103***

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11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al. [ US Patent No 6,832,326 ], in view of Grimwood et al. [ US Patent No 6,243,369 ].

13. As per claim 1, Kubo discloses the invention substantially as claimed including a method comprising:

obtaining a processor tick counter value from a first processing engine [ i.e. read out tick value ] [ P3, Figure 5; and col 9, lines 36-56 ];

comparing the obtained processor tick counter value to a processor tick counter value from a second processing engine [ i.e. read out tick value of the master CPU ] [ Figure 5; and col 56-col 10, lines 20 ].

Kubo does not specifically disclose

determining a timing offset using the comparison; and

sending the timing offset to the first processing engine to apply to the execution of instructions by the first processing engine which are normalized to the timing of the second processing engine.

Grimwood discloses

determining a timing offset using the comparison [ i.e. offset calculation ] [ col 21, lines 48-col 22, lines 18 ]; and

sending the timing offset to the first processing engine to apply to the execution of instructions by the first processing engine which are normalized to the timing of the second processing engine [ i.e. using range algorithm to determine an offset value for synchronization ] [ col 2, lines 55-col 3, lines 14; and col 59, lines 64-col 60, lines 35 ].

It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Kubo and Grimwood because Grimwood's teaching of determining timing offset would provide a precise alignment of timing for synchronization.

14. As per claim 2, Kubo discloses wherein obtaining a processor tick counter value comprises sending a request message from the second processing engine to the first processing engine, and receiving a reply from the first processing engine at the second processing engine [ P1-P3, Figure 5; and col 9, lines 45-56 ].

15. As per claim 3, Kubo discloses wherein the processor tick counter value at the second processing engine is determined by recording the time at which the request message is sent [ i.e. measure propagation delay [ Tick.sync-out ] ] [ col 9, lines 56-65 ].

16. As per claim 4, Kubo discloses wherein the processor tick counter value at the second processing engine is determined by recording the time at which the reply is received [ i.e. Tick.syn-in ] [ col 9, lines 66-col 10, lines 8 ].

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17. As per claim 5, Kubo does not specifically disclose repeating sending a request message, recording the time, receiving a reply, recording the time and determining a timing offset until the determined timing offsets are within a predetermined variability range. Grimwood discloses repeating sending a request message, recording the time, receiving a reply, recording the time and determining a timing offset until the determined timing offsets are within a predetermined variability range [ i.e. ranging process ] [ Abstract; col 1, lines 30-42; and col 4, lines 62-col 5, lines 18 ]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Kubo and Grimwood because Grimwood's teaching of repeating steps would allow to determining accurate timing offset to prevent transmission error.

18. As per claim 6, Grimwood discloses applying a time stamp to a message sent from the second processor, the time stamp being determined by applying the determined timing offset [ Abstract ].

19. As per claim 7, Grimwood discloses receiving an instruction having an execution time and interpreting the execution time by applying the determined timing offset [ col 4, lines 17-61 ].

20. As per claim 8, Grimwood discloses obtaining a processor frequency from the first processing engine; obtaining a processor frequency from the second processing engine; and correcting the timing offset for any difference between the first processing engine frequency

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and the second processing engine frequency [ col 6, lines 63-col 7, lines 7; and col 32, lines 34-67 ].

21. As per claims 9-12, they are program product claimed of claims 1-4, they are rejected for similar reasons as stated above in claims 1-4.

22. As per claim 13, it is program product claimed of claim 8, it is rejected for similar reasons as stated above in claim 8.

23. As per claims 14-17, they are apparatus claimed of claims 1-4, they are rejected for similar reasons as stated above in claims 1-4.

24. As per claims 18-20, they are apparatus claimed of claims 6-8, they are rejected for similar reasons as stated above in claims 6-8.

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after



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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dustin Nguyen whose telephone number is (571) 272-3971. The examiner can normally be reached on flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Follansbee John can be reached on (571) 272-3968. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
JOHN FOLLANSBEE  
SUPERVISORY PATENT EXAMINER  
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Dustin Nguyen  
Examiner  
Art Unit 2154